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SIGNIFICANT DEVELOPMENTS IN SOVIET-POLISH TRADE
1950-51

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FOREWORD

The primary objective of this report has been to use an analysis of the long-term trade agreement between the USSR and Poland to determine the trends of Polish economic development under Soviet direction.

This report utilizes materials from all sources for the purposes of background and comparison

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SIGNIFICANT DEVELOPMENTS IN SOVIET-POLISH TRADE

1950-51*

Summary

The economic relationship which existed between the USSR and Poland from 1948 through 1952 was embodied in a 5-year trade agreement signed in January 1948. Under the terms of this agreement the USSR was to supply Poland with the raw materials upon which current production was based, and with investment goods, chiefly for heavy industry. In return Poland was to ship to the USSR coal, zinc, chemicals, textiles, rolling stock, and other products of its heavy industries. In order to enable Poland to pay for the investment goods, the USSR extended two credits totaling US \$550 million. ** The first credit, in the amount of US \$450 million, partially covered the payment for investment goods imported from 1948 through 1952. The second credit, granted in 1951, partially covers the payment for investment goods for the period 1951 through 1958.

significant increases have been made over the original agreement. Almost all industries which have received investment goods from the USSR -- principally through the medium of the Soviet trading company TEKHNOEXPORT -- have made significant gains over the original export quotas. These increased shipments to the USSR may be considered, in a large measure, as payments for the investment goods supplied within the framework of the long-term credits. Increases over the basic agreement have ranged from 20 percent for rolled products to 70 percent for locomotives and to almost 100 percent for products of the textile industries. Polish

* The estimates and conclusions contained in this report represent the best judgment of the responsible analyst as of 15 March 1954. ** For the purposes of this report the ruble has been converted into US dollars at the official rate of 4:1. Because in all Soviet-Polish trade the ruble is the unit of account, the problem of converting the zloty to dollars did not arise.

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imports from the USSR show a similar pattern, with increases of 30 percent for iron ore, almost 100 percent for manganese ore, 100 percent for apatites, and lesser increases for motor vehicles. Judging from the types of industries which exceeded the long-term plan by the most significant amounts, there is a relationship between the amount of investment goods received and the amount of the overfulfillment of the long-term plan.

Increased exports from Poland of manufactured products, except those few whose primary raw materials are native to Poland, are dependent on increased imports of the necessary raw materials, mainly from the USSR. The increases in exports of iron and steel products, among others, therefore, not only reflect the added capacity resulting from Soviet investment but also indicate significant increases in shipments of Soviet manganese and iron ores. The dependence on the USSR for both investment goods and raw materials is a result of a drastic postwar reorientation of Polish trade.

Although the pace of industrialization has been rapid, there has been no indication at serious difficulties existed in the Soviet deliveries of plants and equipment. For the most part, equipment necessary for the expansion of Polish plants is available from Bloc sources.

the total trade turnover was estimated at US \$338 million in 1950 and US \$422 million in 1951, that is, US \$169 million each way in 1950 and US \$211 million each way in 1951.

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I. Introduction

Poland is of primary importance to the USSR for military, political, and economic reasons, occupying as it does the broad, flat plain of north-central Europe which has been the historic invasion route to Russia. It is therefore of the greatest importance to the USSR that Poland be solidly within the Soviet sphere of influence. How well the USSR has succeeded, economically at least, is evident throughout this report. The complete reorientation of Polish foreign trade is the most striking outward evidence of this shift. The USSR, which in the prewar years 1936-38 accounted for less than 0.5 percent of total Polish trade, accounted in 1951 for 15 percent of total Polish trade. In 1951, Polish trade with the Soviet Bloc amounted to 58 percent of total Polish trade turnover. 1/*

Poland has great potential for developing its broad industrial base, which presently includes the production of rolling stock, machine tools, automobiles, merchant ships, and rolled ferrous metal goods. Poland is one of the two largest producers of industrial chemicals in the European Satellites, manufacturing significant quantities of calcium carbide, caustic soda, sulphuric acid, and other chemicals. Poland is also the largest producer of cement in the Satellites, and in technical and scientific assets ranks third after East Germany and Czechoslovakia. Those raw materials which are not native to Poland are supplied for the most part by the USSR. The USSR supplies large quantities of iron ore, manganese, cotton, petroleum products, bearings, and industrial equipment. Poland's economic role in the Soviet Bloc is therefore that of a major supplier of heavy industrial products, coal, and chemicals.

It should be noted that it was the practice in Soviet-Polish trade relations to negotiate annual trade agreements within the framework of the long-term 1948-52 trade agreement. Since these supplemental agreements are unavailable, it has been necessary to discuss the trends in Soviet-Polish trade in terms of the basic agreement. The increases in this trade over the increases set down in the 1948-52 agreement are

* Footnote references in arabic numerals are to sources listed in the Appendix.

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obviously covered by the supplementary annual plans, and, since these are unknown, the percentage of stated overfulfillment is based on the original quotas. Despite this limitation, it is evident that in many sectors of Soviet-Polish trade, additional emphasis above that embodied in the 1948-52 plan was placed in various commodity classifications. These are discussed in detail as they occur.

II. Polish Exports to the USSR by Major Commodity-Groups.

This section on Polish exports to the USSR, as well as the section on Polish imports, follows the organization of the long-term trade agreement of January 1948 and covers, whenever possible, the commodities listed in that agreement.

A. Coal and Coal Products.

The most important Polish export to the Soviet Bloc is coal and coal products. As early as 1949, the USSR was directing its distribution throughout the European Satellites. The planning of the various shares, as well as the monthly direction of its distribution, is centered in Moscow through the Soviet exporting company, PROMEXPORT. 2/

In January 1945, Poland signed an agreement with the USSR whereby, in return for the recovered territories, * Poland would export 6.5 million metric tons** of coal each year from 1948 through 1950, and 6 million tons in 1951 and again in 1952. These deliveries were to be made

* These coal shipments represent a portion of the USSR's share of German reparations, the source of which is no longer under German control but an integral part of the new Poland. The low price probably represents the cost, assigned by the USSR, of the mining operation. Since a quantity of the coal in the ground is Soviet, by virtue of the reparations agreement, the price should merely reflect the operating cost, albeit quite unreasonably low, of bringing the coal to the surface and delivering it FOB to the Soviet-Polish border.

** Tonnages are given in metric tons throughout this report.

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at a special low price which was determined by an agreement of 22 September 1947. ^{3/} Though the exact figure is not known, the price ranged from US \$1.15 to US \$1.26 a ton during a 6-month period in 1949. ^{4/}

The 1945 agreement was incorporated into the 1948-52 long-term agreement. In addition to the "reparations" deliveries, Poland signed supplementary agreements for annual delivery at "market prices."

In 1950 and 1951 the planned amounts of 6.5 million and 6 million tons, respectively, were delivered at prices presumably similar to those prevailing during 1949. * As a result, these shipments represented a loss to the Polish economy of the equivalent of US \$68 million in 1950 and US \$101 million in 1951. **

Shipments made under the supplementary agreement were to be sent to the USSR in increasing quantities throughout 1948-52 so that the annual exports of Polish coal would remain in the vicinity of 7.5 million tons throughout the entire life of the long-term agreement.

In 1950, the supplementary agreement for 1 million tons was exceeded by an estimated 100,000 tons. In 1951, although the supplementary agreement was increased by 500,000 tons to counter a similar drop under the "reparations" proviso, it was again exceeded, although this time by the slim estimated margin of 20,000 tons. The price of the coal shipped under this agreement was about US \$12 per ton in 1950. ^{6/} This price closely approximated the average price charged by Poland to Sweden and Finland for medium coal in the same period.

* Announcements in the Polish press in 1949-50 stated that a revision of these prices was being considered

** The discounts are based on the difference between the US \$1.25 price charged to the Russians in 1950 and 1951 and the average prices for medium-grade coal charged to Finland and Sweden in 1950 and 1951. The prices of medium-grade Polish coal to Finland and Sweden averaged US \$11.75 in 1950 and US \$18.10 in January 1951. ^{5/}

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The exports of coal to the USSR in 1950 and 1951, although they represent less than 10 percent of Polish production, are more important than their size would indicate. Shipments of coal to the USSR have a priority over shipments to the West, and this priority has resulted on various occasions in the failure of Poland to meet its current obligations to the West, thereby jeopardizing essential imports from Western countries. 7/

According to a contract signed on 22 September 1947, Poland agreed, among other things, to bunker Soviet ships not transporting coal. 8/ Based on several monthly plans, the annual "export" of this type of coal in 1950 is estimated at 12,000 tons. there

is no reason to assume that the number of Soviet ships bunkering at Polish ports should have decreased. This figure can therefore be reasonably assigned to 1951 as well.

The only evidence of coke fines* indicates that this commodity was shipped, on Soviet account, only to Soviet Field Post Stations in Poland. In this fashion, Poland "exported" in 1950 an additional 52,000 tons of coal products to the USSR. 9/

According to the January 1948 agreement, Poland was to ship 250,000 tons of metallurgical coke during each year covered by the agreement, which ran from 1948 to 1952. No sizable shipments were actually sent to the USSR and almost all of the planned shipments were sent to East Germany on Soviet account. ** 10/

In 1950, a gave the amount of metallurgical coke shipped to East Germany on Soviet account as 247,959 tons, a figure only 2,000 tons short of the Polish

* Coke fines are very small particles of coke used chiefly for space heating purposes, as in homes and barracks.

** By "on Soviet account" is meant that Poland would ship metallurgical coke to East Germany, and that this export not only would be handled as a delivery by Poland to the USSR on Soviet-Polish account but also would be considered by East Germany as an export from the USSR within the framework of a given agreement. This is a fairly common Polish and Soviet practice, by which some of the obvious disadvantages of bilateralism are somewhat mitigated.

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planned export of metal coke to the USSR. Calculations

show that 220,000 to 240,000 tons of coke were sent in 1951 to East Germany on Soviet account. 11/ Total shipments of metallurgical coke to East Germany in 1951 are calculated to be 320,000 tons 12/ on the basis of a total of 6 months of shipping and several monthly plans.

In 1950 and 1951 the recovered shipments of this product to Hungary, also on Soviet account, were 7,000 tons and 15,000 tons, respectively. The basic 1950 plan was therefore slightly exceeded, and the basic 1951 plan was probably fulfilled.

These shipments of metallurgical coke, while representing less than 10 percent of Polish production and hence placing no particular hardship on the Polish economy, do represent a significant contribution to East Germany, whose production is only slightly greater than the imports from Poland.*

B. Machinery and Transportation, and Industrial Equipment.

Poland was to deliver to the USSR 70 locomotives in 1950, and 100 in 1951. Although the trade agreement did not specify whether these figures included both broad- and narrow-gauge locomotives, both types undoubtedly were included. The size of these shipments takes on added significance when related to total estimated Polish production of steam locomotives.**

Calculation show that in 1950 the basic delivery plan was exceeded by 10 percent. A total of 122 locomotives were shipped, of which 30 were narrow-gauge KP-4's, which are extensively used in the Soviet lumbering industry, and 92 were the broad-gauge "R" series (785-786), the basic main line freight locomotive used in the USSR. 15/ In 1951, a similar over-fulfillment occurred, although the plan envisioned an increase of 30 units. In this year, 158 units, composed of 51 narrow-gauge KP-4's and 107 broad-gauge series "R" (786-787), were shipped, thus exceeding the original plan by about 50 percent. 16/

* CIA estimates for the 1952 production of metallurgical coke are 265,000 tons for East Germany and 2,690,000 tons for Poland. 13/

** CIA estimate for the 1952 production of steam locomotives in Poland is 300 units; for freight cars, 16,400 2-axle units. 14/

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Of the 1,750 freight cars to be shipped in 1950, presumably the largest portion was to be the No. 53 series, since this type predominated in traffic. Calculations

show that 2,360 cars of series No. 53 were shipped to the USSR along with 100 additional units of other types, thus making a total of 2,460 freight cars, or an excess of 700 units over the plan.

Only one type of Polish machine tool of any importance was exported in the 1950-51 period. At least 34 50-ton machines for making railroad wheel sets were shipped in the 2-year period. * 18/ Although no estimate of the quantity of wheel sets exported to the USSR is possible, they were noted moving eastward throughout 1950-51. Soviet requirements for wheel sets from Poland undoubtedly will be reduced as a result of the import of Polish machinery.

C. Semifinished Ferrous Metal Products.

In the 5-year trade agreement, Poland agreed to ship various quantities of petroleum pipe to the USSR. ** No total estimate of exports of petroleum pipe in 1950 can be given,

recovered shipments totaled an insignificant 1,100 tons. A firm total for 1951 can be recorded, based for the most part on the amounts of drive pipe shipped on 3 orders for the first 6 months of 1951 and the planned deliveries for the remainder of the year. 19/ The combined total of these three contracts is 14,000 tons. Six additional contracts were noted in 1951 traffic and, although the amounts of pipe of these orders are not known, there is little doubt that Poland fulfilled or exceeded the 17,500-ton quota. Polish exports of petroleum pipe to the USSR helped to replace the quantity of pipe exported by the USSR to Rumania and Bulgaria in 1950 and 1951. ***

* Poland has officially stated that such machine tools would be exported.

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According to the 1948 agreement, Poland was to deliver 22,000 and 25,000 tons of rolled steel products in 1950 and 1951, respectively. Table 1 indicates that in 1951 this plan was exceeded. 20/ As in the case of certain other exports, the 1950 figure does not necessarily mean that Poland actually fell short in deliveries. The lower coverage of these commodities in 1950 in all probability accounts for the lower

Table 1
Minimum Exports of Rolled Steel Products
from Poland to the USSR
1950-51

		Metric Tons	
		1950	1951
Type	Plan		Plan
Rails a/	15,000		20,000 b/
Beams and Girders	1,100		6,500
Plate	0		4,000
Round Iron	3,000		3,000
Miscellaneous	0		7,000
Total	22,000	19,100	25,000
			40,500

a. Rails and fasteners.

b. Eleven thousand tons were shipped in a 6-month period. Twenty thousand tons represents logical expansion, especially in view of the installation of new rolling mills and the monthly pattern of deliveries in 1950.

minimum total. There is little doubt that the original 1950 plan was exceeded (as was the case in 1951), in view of the capacity of Poland to export this amount and in view of the significant size of the over-fulfillment in 1951.*

* CIA estimates that the 1952 rolled steel capacity of Poland was 1,750,000 tons. 21/

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In addition to the ferrous products itemized in the long-term trade agreement, Poland exported a minimum of 8,500 tons in 1950 and 10,600 tons in 1951 of such items as wire, nails, screws, and screw plugs.*

D. Industrial Chemicals and Raw Materials.

Poland, which manufactures sizable quantities of calcium carbide, caustic soda, sulphuric acid, and other chemicals, is one of the Soviet Bloc's two most important chemical producers. The 5-year trade agreement committed Poland to export to the USSR a combined total of 15,000 tons of caustic soda (lye) and soda ash in 1950, and 20,000 tons in 1951.

There were indications that this plan had been revised upward by a considerable percentage. 22/ In 1950 indicated that the new plan for soda ash in 1950 was 25,000 tons. 23/ An estimated 5,000 tons of caustic soda were sent to the USSR here on Soviet account in 1950. The combined total, and actual shipment, of 30,000 tons of these two chemicals exceeds the basic agreement by 100 percent. 24/

In 1951, although the planned increase in deliveries under the long-term trade agreement amounted to an increase of about one-third, Poland exceeded the basic plan of 20,000 tons by 17,000 tons, or about 85 percent. 25/ Of the 37,000 tons shipped, approximately 30,000 tons were soda ash and 7,000 tons were caustic soda. East Germany, Hungary, and Bulgaria received in 1951 a combined total of at least 7,500 tons of the soda ash exported on Soviet account.

In addition to the soda ash and caustic soda listed in the long-term agreement, Poland exported sizable quantities of other industrial chemicals to the USSR in 1950 and 1951. Among these were calcium carbide, calcium chloride, soda bicarbonate, aluminum sulphate, aluminum phosphate, and refined soda.

with absolute totals of only 9,000 tons in 1950 and 9,400 tons in 1951, exclusive of calcium carbide. 26/

* Excluding an unknown amount of wheel sets, 82,000 drain pipes and 11,000 cast iron forms, which are expressed in units rather than weight.

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The 1950 shipment of calcium carbide is estimated to be 23,000 tons, * slightly over 10 percent of the estimated 1952 total Polish production. In addition to the shipment of calcium carbide, another chemical exported in large volume to the USSR outside of the 1948-52 agreement was potassium chloride.

in 1950 no more than 90,000 tons of potassium chloride were sent to the USSR.

This 90,000 tons of potassium chloride, which is used chiefly for fertilizers, is apparently a re-export from East Germany, which, in 1952, was to have supplied 409,000 tons to Poland. 28/ Poland possesses large deposits of this which are in the process of exploitation and which should limit its dependence on East Germany. The omission of such a sizable quantity of chemicals from the long-term trade agreement points out the fact that a considerable number of additional agreements must have been signed outside the framework of the basic agreement. Such supplementary agreements appear, in the case of chemicals, quite logical in view of Poland's importance as a chemical-producing nation.

Polish production of cement, estimated for 1952 at 2.7 million tons, 29/ exceeds that of any other European Satellite. According to the long-term agreement, Poland planned to export 100,000 tons in each of the 5 years covered by the agreement. Actually, exports were 2.5 times this amount in 1949 and twice this amount in 1950 and 1951.

A calculation of shipments of cement

gives a total for 1949 of 240,000 tons of cement shipped to the USSR; for 1950, 200,000 tons; and for 1951, slightly less than 200,000 tons. 30/ This increase of 100 percent over the original agreement does not seem to place any particular hardship on the Polish economy, for two reasons. First, it represents less than 10 percent of total production, and second, the increase is apparently payment for technical and material aid advanced through the program of the Soviet company, TEKHNEXPORT, to the Polish cement and other industries. 31/ Most industries which have received this type of aid, for which payment from the added capacity is due,

* Based on a shipping total covering a 3-month period.

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show the same pattern of increased deliveries. It is not to be inferred, however, that payment for Soviet investment to a specific industry is to be paid for by increased exports from that industry, but rather to be inferred that the USSR has a claim on the Polish economy in general. Even so, whenever a Polish company has received Soviet investment goods, the exports of that industry have increased significantly.

Although it is not possible to estimate the extent of Polish fulfillment of the 1950 plan for sulphur, 700 tons, which represent slightly less than half of the plan, were shipped to Czechoslovakia on Soviet account. 32/ In 1951 the plan of 1,600 tons was probably met, minimum shipment total of 1,400 tons in a 6-month period. 33/ There is no way of determining the type of sulphur exported, although presumably it is derived from illuminating gas, as specified in the trade agreement. In view of the fulfillment of the 1951 Polish-Rumanian agreement, by which Poland was to export 2,000 tons of sulphur to Rumania, there is no doubt that the Soviet quota was filled, since the order of priorities would undoubtedly place the interests of the USSR above those of Rumania. 34/

E. Nonferrous Metals.

The estimated 1952 production by Poland of 123,000 tons of refined zinc represents over 90 percent of total Soviet Bloc production, exclusive of the USSR, and there is a sufficient supply of zinc in the Bloc to fill all anticipated needs, with substitutes, if needed, also readily available. 35/ The major uses of zinc are as a coating for metals, especially iron; as an alloying metal with copper to make brasses and bronze, which enter into countless military end items; and as a component of dry-cell batteries for use in radios and flashlights.

The coverage of zinc for 1950 is rather limited and no firm foundation for estimating total shipment to the USSR is possible. Table 2,* which gives the minimum exports of zinc to the USSR, shows that Poland exceeded the 1951 schedule of 11,000 tons by more than 4,000 tons. 36/ The fact that the 1950 shipment total is less than the plan is probably due to lack of coverage, since it is well within Polish capacity to ship the planned amount.

* Table 2 follows on p. 13.

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Table 2
Minimum Exports of Zinc from Poland to the USSR
1950-51

Type	Metric Tons	
	1950	1951
Plan	Plan	Plan
Refined	5,500	9,000
Electrolyte	3,000	4,400
Metal	800	1,200
Dust	400	650
Feet	N. A.	400
Totals	<u>11,000</u>	<u>15,650</u>

The agreement to ship 2,500 tons of zinc oxide in 1950 and 1951 is also estimated to have been met in 1950 and exceeded in 1951. The 1951 shipment of 2,800 tons in an 8-month period indicates that the plan was probably exceeded by a considerable amount. Although zinc oxide is used in the manufacture of paint, it is estimated that, at least 50 percent of the total production enters into the manufacture of rubber.*

F. Textile and Agricultural Products.

As was the case with cement, the export plan for textiles was fulfilled before the end of the calendar year in 1950 and again in 1951. Shipments on the 1951 contracts began about 16 November 1950 and were completed by 3 November 1951. 38/ The yearly contracts for various textiles were considerably higher in 1951 than those called for in the long-term agreement.

* In 1950, according to the US Bureau of Mines, slightly over 50 percent of the total US production of zinc oxide was consumed in the manufacture of rubber and rubber goods. 37/ Presumably at least this percentage was utilized by the rubber industries of the Bloc.

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According to the "basic" agreement, presumably the long-term trade agreement for 1948-52, Poland was to export a total of 38 million meters of cloth in 1950 and 38.5 million meters in 1951. The 1951 supplementary agreements must have totaled at least 46 million meters, inasmuch as this figure represents the difference between 84.5 million meters actually shipped in 1951 and the plan of 38.5 million meters. Unfortunately, there is no way to estimate the amounts of any supplementary agreements for 1950. It is apparent, however, that the basic agreement for 1950 was met almost 2 months ahead of schedule.

Table 3 gives the detailed breakdown of the types of textile products exported from Poland to the USSR in 1951.

Table 3

Minimum Exports of Textile Products
from Poland to the USSR
1951

Million Meters		
Type	Plan	
Cotton	35 "	66.4
Woolen	3.5	8.0
Silk	N.A.	3.5
Linen	N.A.	6.4
Other Textiles	N.A.	240
Total	38.5	84.54

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The increase of textile exports over the long-term agreement to one of the most striking aspects of Polish trade with the USSR. It is interesting to note that the Polish textile industry received a considerable amount of assistance through the Soviet program of technical aid.* In 1951, the USSR received about 22 percent 40/ of the total cotton textile production of Poland, a significant amount in view of the relatively low level of Polish domestic consumption.

Sugar was the only agricultural product of any importance shipped from Poland to the USSR in 1950-51. From 1948 to 1952, Polish exports of sugar to the USSR were to slowly decline from a high of 80,000 tons in 1948 to just half this amount in 1952. The years 1950 and 1951 were each to see exports of 50,000 tons. In 1950, this plan was exceeded by 30 percent, with shipments totaling 65,000 tons. Sugar shipments in 1951 were 57,000 tons, which represented 10 percent of the announced annual production. 41/

III. Polish Imports from the USSR by Major Commodity Groups.

Generally, the exports from the USSR were of the type used in the heavy-industry sector of the Polish economy and included both investment goods and raw materials.

A. Ores.

Anticipating an annual increase in the need of Poland for iron ore, the 1948 trade agreement committed the USSR to increase shipments gradually from 500,000 tons in 1948 to twice that amount in 1952. The scheduled deliveries for 1950 and 1951 were 750,000 tons and 900,000 tons, respectively. In both years the USSR exceeded the long-term agreement. 42/ It is estimated that 1,140,000 tons were shipped to Poland in 1950, of which 50,000 tons were an advance on the 1951 agreement. A shipment of this size would indicate not only that the long-term contract had been fulfilled but also that the basic plan had been increased by over 50 percent. In 1951

* A more detailed discussion of this aid is included in the section of this report dealing with Soviet contribution to Polish economic development. See Part V, p. 24.

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total amount of iron ore shipped through 3 transshipment points and by water was 981,561 tons. For the entire year, 1,178,000 tons were shipped on the original quota of 900,000 tons, an increase of over 30 percent. 43/-

The size of these shipments* reflects the increase in the requirements of the iron and steel industry above those anticipated in 1948 and is another indication of the accelerated expansion of this sector of the Polish economy. 44/

The rapid increase in Polish requirements for raw materials for the iron and steel industry was reflected in the size of Soviet shipments of manganese ore in 1949, the long-term requirements for which were determined by the agreement of January 1948. The estimated 1950 and 1951 needs were 65,000 tons for each year.

it would appear that the shipment on the 1949 contract was 146,000 tons, although the plan required only 60,000 tons.

but the plan for 65,000 tons each year was probably met, in view of the manganese shipments in 1949.**

In 1948 the USSR contracted to ship to Poland 85,000 tons of apatites in 1950 and the same amount in 1951. The estimated total shipped in 1950 was 108,000 tons.

the Poles were willing and able to transport between 750,000 and 1,500,000 tons" in 1951. 46/ A shipping total

* The USSR supplied approximately 50 percent of the Polish iron ore requirement in 1951. Exports of this magnitude did not represent any strain on Soviet iron ore production.

** The USSR supplies approximately 100 percent of Polish manganese requirements.

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for 9 months in 1951 indicates that the higher figure was approximated, since this shipping total, when expanded, gives a year's total estimated shipment of 148,000 tons. 47/

During 1950 and 1951 the USSR was to deliver 4,500 tons of chrome ore to Poland. Although no evidence of shipments was noted in 1950, slightly over the year's planned amount was shipped in the first 6 months of 1951. 48/ The absence of a 1950 total does not indicate that the USSR failed to live up to its agreement.

since the export of such a small amount of chrome ore is well within Soviet capabilities.*

B. Machinery and Transportation, and Industrial Equipment.

Throughout 1950 and 1951, machinery of various types was imported from the USSR. These machines, for the most part, consisted of small multi-purpose machines and machine tools such as drill presses, hand drills, lathes, screw-cutting machines, and others.

Imports of transportation equipment, including tractors, as shown in Table 4** exceeded the plan in both 1950 and 1951, with a total estimated shipment of 6,300 vehicles*** of all types for the 2 years.

Although the sizes of these truck shipments are not particularly significant when taken by themselves, it should be noted that the 1950 truck total represents slightly more than one-quarter of the estimated**** truck output of Poland for 1952.

* The estimated production of chromite in the USSR in 1952 was 650,000 tons. 49/

** Table 4 follows on p. 18.

*** This estimate is computed by adding the figures given for each vehicle in Table 4 under "Plan" or "Minimum Shipment" -- whichever is higher.

**** The estimated production of trucks in Poland in 1952 is 6,500 units. 50/ The estimated imports of trucks from the USSR in 1950 -- was 1,790 units.

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Table 4

Estimated Polish Imports of Motor Vehicles
from the USSR 51/
1950-51

Type	1950		1951	
	Plan	Minimum Shipments	Plan	Minimum Shipments
<u>Tractor</u>				
STZ-NATI	100	N.A.	100	a/
S-80	30	131	35	25
KD-35	35	103	35	40 b/
YaAZ	N.A.	10	N.A.	N.A.
<u>Trucks</u>				
GAZ-51	900	1,131	900	493
ZIS-150	110	550	110	500
MAZ-200	N.A.	N.A.	N.A.	3
ZIS-585 (Dump)	450	97	450	131 c/
PMZ-8 (Fire)	N.A.	2	N.A.	35
? (Gas)	N.A.	10	N.A.	12
<u>Jeep</u>				
GAZ-67	450	262	450	152
<u>Auto</u>				
POBEDA GAZ-M-20	N.A.	130	N.A.	265
ZIS-110	N.A.	6	N.A.	1
MOSKIVICH	N.A.	12	N.A.	N.A.
KT-12	N.A.	20 d/	N.A.	N.A.
<u>Motorcycle</u>				
(M72-745) (CM-3)	N.A.	100 d/	N.A.	N.A.
IZh	N.A.	300 d/	N.A.	N.A.
Total	2,075	2,864	2,080	1,657

* Footnotes for Table 4 follow on p. 19.

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Table 4

Estimated Polish Imports of Motor Vehicles
from the USSR 51/
1950-51
(Continued)

-
- a. Parts only.
 - b. Shipped as units and presumably includes beet combines as well.
 - c. Agreement also includes sanitation trucks; none observed.
 - d. Request for 1950 delivery.

Three types of vehicles delivered to Poland from the USSR have a military use: the YaAZ, a heavy tractor used in Soviet mechanized divisions to pull artillery; all types of motorcycles; and jeeps (GAZ-67). The remaining trucks are mainly for civilian purposes, although obviously they could be used by the military for motor transport.

there is little doubt that the 1951 estimate is less than the amount actually shipped.

C. Petroleum Products

Poland was a net exporter of petroleum products before the westward postwar shift of the Soviet-Polish border. The implementation of the Yalta line removed from Polish control almost all of its refining capacity and most of its producing wells. Not only because of this shift but also because of the increased postwar demand for petroleum products, Poland now imports most of its petroleum.

Under the terms of the 1948 agreement the USSR agreed to supply Poland in 1951 with 173,500 tons of petroleum products, most of which would not originate in the USSR proper but would be shipped from other Satellites to Poland on Soviet account. These petroleum shipments from Soviet Bloc countries such as Rumania, for example, to Poland within the framework of this Soviet-Polish agreement are also within the

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framework of a Soviet-Rumanian trade agreement and are considered by Rumania as exports to the USSR for which payment by the USSR is due. The Poles on the other hand consider these Rumanian exports as Soviet exports and accordingly make payment to Moscow. Thus the statement that the USSR supplies Poland with the largest amounts of refined products and that the USSR accounted for about one-quarter of the total Polish POL imports in 1951 is not true in terms of the physical origins of the POL but is true in the sense that the POL represents the largest amount contracted for by Poland with any country. Of the 190,000 tons of POL shipped to Poland on Soviet account in 1951, only an amount estimated as 25,000 tons (based on a 1950 figure) actually was of Soviet origin. 52/

Shipments of petroleum products from Soviet Bloc sources to Poland are regulated from Moscow through the Soviet trading company NEFTA, which assumes the responsibility for the maintenance of orderly shipping by the Polish railway system. It is apparent that the Soviet insistence on the maintenance of shipping schedules is firm and that changes in the schedule are rigidly fixed for at least one month in advance of any date. On several occasions the Poles were required to accept delivery of products for which they had signed contracts even though they protested because of lack of storage space.

No information concerning Polish imports is available for 1950. About 10 January 1951, as a result of a series of negotiations between Poland and the USSR, a contract was signed which committed the USSR to supply to Poland, from the USSR and elsewhere on Soviet account, approximately 175 000 tons of refined petroleum products in 1951. 53/
a supplementary

15,000 tons of petroleum was added to the original plan. This supplementary plan followed closely the amounts planned for 1951 deliveries as stated in the long-term trade agreement.

An interesting pattern of deliveries was observed throughout 1950 and 1951, indicating that several thousand tons of refined petroleum products were delivered to Poland, from other Satellites, on Soviet account. For example, of the 4 types of aviation fuel shipped to Poland on Soviet account in 1951, 2 types -- B-95 and jet fuel -- were supplied from East Germany exclusively, while none of the summer diesel fuel was shipped from the USSR, although all winter-grade diesel

fuel originated in the USSR. Apparently the USSR supplied most of the special engine oils and none of the crude oil. Table 5 gives a detailed breakdown of POL shipments to Poland on Soviet account.

Table 5
Estimated Polish Imports of POL
on Soviet Account
1951

	Metric Tons
<u>Distillates</u>	<u>Quantity</u>
Aviation Gasoline	26,000
Motor Gasoline	32,000
Kerosene	39,000
Diesel Fuel	56,000
Solar Oil	8,000
Total	161,000
<u>Engine Lube Oils</u>	
Avtol	9,000
Diesel	6,000
Miscellaneous	3,000
Total	18,000
<u>Miscellaneous</u> <u>and Unidentified</u> <u>Products</u>	<u>11,000</u>
Total	190,000

In addition Poland imported several million cubic meters of gas from the USSR in 1950 and 1951. The gas originated in former Polish

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territory near the old Polish city Drohobycz (now Drohobyczka) and was sent by pipeline to Sandomierz. 54/

D. Nonferrous Metals.

No record of plans for delivery of nickel is in evidence

Although the USSR shipped sizable quantities in 1950 and 1951. Nickel was imported in two forms, the cathode type (99.7 percent) and the granulated type (98.6 percent). 55/ In 1950, letters of credit were opened for 375 tons of each type to be sent to Poland, although a total of only 400 tons* was in 1951.

It is very difficult to obtain a substitute for nickel, which has an important role in modern industry. It is used extensively in the manufacture of jet engines, exhaust valves for reciprocating aircraft engines, high alloy construction steels, stainless steels, tools, and gear boxes. Considering the importance of nickel to Polish industry and the size of the shipments as compared with the total annual Polish estimated production of 425 tons and the total European Satellite production of 560 tons, ** these shipments take on added significance. In Poland, as in other Satellites, a concerted campaign is being waged to replace this and other metals in short supply with substitutes.

The planned shipment of antimony of 250 tons and 300 tons in 1950 and 1951, respectively, was fulfilled in both years. At the beginning of 1950, Poland requested an increase in the 1950 plan from 250 to 350 tons, noting that the 1948 plan for antimony, which was 200 tons, had not been increased up to this time. 57/ There is no specific evidence that the additional 100 tons was shipped, although, since this metal enters into a considerable number of Polish manufactures, the probability is that the increase was granted. This metal is easily substitutable and is in large supply within the Soviet Bloc. In the US, one-half of all antimony used in metal products is used in the manufacture of battery lead, and

* 58/

** Poland's 1952 nickel production is estimated to be 425 tons. The only other Bloc country producing nickel was East Germany, with a 1952 estimated production of 135 tons. The combined total of Poland and East Germany represents 0.14 percent of Bloc production. The USSR accounted for 99.86 percent, or a 1952 estimated production of 38,800 tons. 56/

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one-third is used in antifriction bearings. The remaining amounts are used in ceramics, rubber, and match manufacture. The uses to which antimony would be put by Poland are probably quite similar. 58/

E. Military Goods:

The Engineering Directorate, a Soviet firm, exports aircraft, radio equipment, and instruments to Poland. There is no significant information in 1950 or 1951 upon which to base an estimate of either the amount or the specific types of goods exported to Poland other than the general categories mentioned above.

August 1949 gives the amount of an order for the Polish Civil Air Fleet during 1950, which was presumably for parts or small aircraft. It is not known whether the three aircraft called for in the long-term trade agreement and not identified by type were delivered to Poland in 1950 or in 1951.

IV. Transportation of Goods between Poland and the USSR.

No references to any difficulty in the transportation of the goods between Poland and the USSR were noted during 1950 and 1951. It is apparent that the combination of ocean and rail facilities is adequate for the level of trade that exists between the two countries even though several large volume products are shipped -- namely, coal, cement, manganese, iron ore, apatites, and petroleum products.

The largest quantities of coal move eastward through seven transshipment bases,* with lesser amounts being transported by sea. 59/ With minor exceptions, Polish exports of cement have been sent through the transshipment point of Chyrov.** Soviet exports of iron ore were sent through the 2 transshipment points of Zurawica and Brest, over 850,000 tons having been shipped through Zurawica, in slightly less than a 10-month period in 1951, while during the same period only 130,046 tons moved through Brest, indicating the relative importance of the 2 centers. 60/

* Mostiska, Brest, Kovel, Chernykhovsk, Brestovice, Gorodovice, and Bagrationovsk, in the order of their importance. These transshipment bases accounted for over 600,000 tons in January 1951.

** Located 20 miles southeast of Przemysl on the southeast Polish-Soviet border. In 1950 and 1951, almost 400,000 tons of cement passed through this city.

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V. Soviet Contribution toward Polish Economic Development.

Three Soviet Companies (STANKOIMPORT, TEKHNEXPORT, and MASHINOIMPORT) are concerned principally with the program designed to increase the industrial capacity of Poland. Generally the relationship existing between these companies is that TEKHNEXPORT concerns itself with over-all planning, coordination, and technical advice, while supplying a considerable portion of the material aid. 61/ MASHINOIMPORT and STANKOIMPORT supply additional essentials for the industries. All these investment goods were supplied outside of the framework of the 1948-52 trade agreement.

Payments for investment goods supplied from 1948 through 1958 are to be paid for by two credits totaling US \$550 million. Thus the USSR would have a claim on the Polish economy in general for this amount. Although there is no information concerning the repayment of these loans, there are numerous statements that repayment would be "in kind." This being the case, there would be varying lags between delivery of the equipment and payment shipments resulting from greater capacity. In the case of textile machinery the time lag would be considerably less than in the case of a blooming mill for the steel industry.

The increased capacities of Polish industries aided under the industrialization program are reflected in increased exports of their products to the USSR. The heavy iron and steel industry in all stages from the installation of blast furnaces to the manufacture of tanks and rolling stock appears to be the primary interest of the USSR. Following closely are mining, the textile industry, and cement manufacture. In all these industries the originally planned annual export increases, as embodied in the long-term trade agreement, have been exceeded. It is quite probable that the industrialization of Poland, with certain exceptions, has proceeded at a rate much faster than the contracting parties had originally thought possible.

It should be noted that

exports of materials from the aided industries exceeded the long-term quota by significant amounts: textiles by 100 percent in 1951, locomotives by 70 percent in 1950 and 50 percent in 1951, and rolled-iron products by 20 percent in 1951.

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Although the information included in this study does not cover the time period beyond 1951, a trend can be noted. Those industries which have received in the past and are now receiving aid from the TEKHNOEXPORT can be expected to continue increasing their output with comparatively little difficulty, since the materials necessary for expansion are, for the most part, quite readily available from Soviet Bloc sources.

VI. Polish Iron and Steel Industry.

The increases in the Polish iron and steel industry over the past few years have been largely due to Soviet investments. Despite the failure of Poland to fulfill the largely unrealistic Six Year Plan for the iron and steel industry, the progress of this industry from 1948 to 1952 was regular and good. This progress cannot be adequately gauged by a comparison of the outputs and the deviation from the Six Year Plan.

It is estimated that Polish pig iron production rose from 1.1 million tons in 1948 to 1.6 million tons in 1951, although the Six Year Plan required a goal of 1.75 million tons to be reached by 1952. The nature of the investment was such that in order to realize fully the effectiveness of the already installed equipment it was still necessary to incorporate the final increment, since in many mills auxiliary equipment has been designed to allow for the planned installation of additional furnaces at a subsequent date, generally 1952 and 1953. A time lag in such installations of as much as 3 years can occur as in the case of Nowa Huta and such lesser installations as the Bobrek Steel Mill. In addition to the technological time lags there is the real difficulty of training sufficient personnel to operate the complex equipment. A lack of coordination existing between the operating units is also a serious problem. It is believed that when these conditions are solved -- which may be about 1956 -- a very significant increase in Polish steel output may occur, although probably somewhat less than envisioned in the Six Year Plan.

In order to present a background analysis

analysis. A Soviet engineering survey of the Polish iron and steel industry is incorporated into the following paragraphs. 62/

Several Polish installations are listed below with the general categories of Soviet contributions.

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Huta Kosciuszkow Steel Plant.

Two new blast furnaces of Soviet origin were installed by September 1951 and a third blast furnace "C" was planned to be in operation by December 1952. 63/ The capacity of these three furnaces is estimated to be a total of 750,000 tons of pig iron annually. The basic heavy portions of the furnaces, together with a considerable amount of the auxiliary equipment such as blowers, were supplied from the USSR. 64/ Some additional electrical apparatus was supplied by East Germany under the coordination of TEKHNOEXPORT. 65/

Huta Czestkow Steel Plant (renamed Huta Bieruta).

this plant has received a considerable amount of technical and material aid toward making it an integrated combine. To increase the production of pig iron, 3 blast furnaces were planned for early installation, 2 of which were in operation by the autumn of 1951. 66/ As in the case of Huta Kosciuszkow the design of the electrical apparatus, some of which was sent from East Germany on order of TEKHNOEXPORT, allowed for the incorporation of the third furnace. 67/ In conjunction with the blast furnaces, 6 open-hearth furnaces for the processing of pig iron into steel were to have been installed 68/ by May 1952. The estimated capacity of this mill was 300,000 tons of raw steel and 82,000 tons of pig iron, which indicates that the additional pig iron must have been shipped in from another plant. Although none of the 100-ton open-hearth furnaces can definitely be assigned to this plant, 4 are believed to have been in operation here by the end of 1951. 69/ In addition to the above, equipment for the processing of ore such as conveyor belts and crushers which were observed in traffic can be assigned to this plant. 70/

Bobrek Steel Mill.

In 1947, Poland contracted in the US for the delivery of a rolling (blooming) mill which was desperately needed to eliminate a bottleneck in the Polish iron and steel industry. In 1948 the US denied an export license even though the mill had already been paid for by Poland. The last denial was issued by the US in late 1948. On 15 December 1950 a contract was signed with the Soviet Company MASHINOIMPORT to install a blooming mill to replace the one denied by the US. In early

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January 1951 the Soviet company TEKHNEXPORT assumed the responsibility for delivery. 71/ An analysis

shows that the installation of the rolling mill proceeded fairly smoothly and that the Polish government was able to announce on 1 September 1952 that the mill was completed two months ahead of schedule. 72/ The time lapse between the original letting of the contract and the announcement of its completion is similar to US practice. The capacity of this rolling mill, which is estimated at about 1 million tons annually, is considerably greater than the pig iron and raw steel output of the Bobrek Steel Mill.* The proximity of other Polish steel mills, however, will allow this mill to be used at near capacity. The importance of this rolling mill should not be underrated, since it will add an estimated 15 percent to Polish rolled steel capacity.

Stalowa Wola Steel Mill.

The only mention of this plant was in connection with electrical equipment necessary for open-hearth furnaces of which at least one must have been installed. 73/

In fact four were in operation by the end of 1952.

In addition to the iron and steel industry, several other Polish industries were the recipients of Soviet investment. The Polish textile industry received equipment such as shop and spinning machinery throughout 1950-51. The cement industry imported several cement mills and pumps as well as plans and equipment for the Wierzbica Cement Plant, which is reported to be the largest in Europe exclusive of the USSR. This aid was partially responsible for the increases in production. The coal mining industry received almost all types of mining machinery from simple motors to complicated coal combines. Although it is impossible to estimate the quantities of machinery shipped to the above industries, it is significant that increases in the exports from these industries over the annual increases embodied in the long-term trade agreement were higher, in most cases, than increases from the unaided sectors of the Polish economy.

* Pig iron capacity of this mill is estimated at 320,000 tons and raw steel production is estimated at 378,000 tons for 1952.

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VII. Conclusions.

From the foregoing analysis of Polish trade with the USSR during 1950 through 1951 the following conclusions are presented.

1. Poland's industrial development, under the direction of the USSR, has proceeded along the lines of fitting it for the role of one of the major suppliers in the Bloc of heavy industrial items, textiles, and chemicals as well as improving its prewar position as a major source of coal and coal products. The largest percentage of imports from the USSR are raw materials such as ores and cotton, plus significant amounts of investment goods, while Polish exports to the USSR consist of coal, zinc, rolling stock, industrial chemicals, and textiles. Table 6* and Table 7** give a survey of the volume of these shipments.

2. The long-term pattern of Soviet-Polish trade which was laid down in the 1948-52 trade agreement was maintained throughout 1950-51. The quantities of goods shipped, however, were significantly larger than planned under the agreement. The largest increases in Polish exports were rolling stock and textiles, whereas the largest increases for Soviet exports were in ores. These increases reflect the need of an expanded Polish industrial economy brought about, in part, by Soviet investment goods.

3. Although Poland has always been an asset to the Soviet Bloc, its rapid recovery from the ravages of war, which were the most extensive in any Eastern European country, together with the large amount of investment which has taken place in the last 6 years will greatly add to the already significant contribution made by Poland toward the further industrialization of the Bloc.

* Table 6 follows on p. 29.

** Table 7 follows on p. 30.

Basic Commodities to be Imported by Poland
from the USSR a/*
1950-51

Commodity	1950	1951
Unit		

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Table 7

Basic Commodities to be Imported by Poland
from the USSR a/
1950-51
(Continued)

-
- a. Abstracted from the 1948-52 long-term agreement.
 - b. Include petroleum products and lubricating oils.

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APPENDIX

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